



Hurricane Matthew Impacts to Jacksonville Beaches

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with

Tom Fallin, City of Jacksonville

Jason Harrah, US Army Corps of Engineers





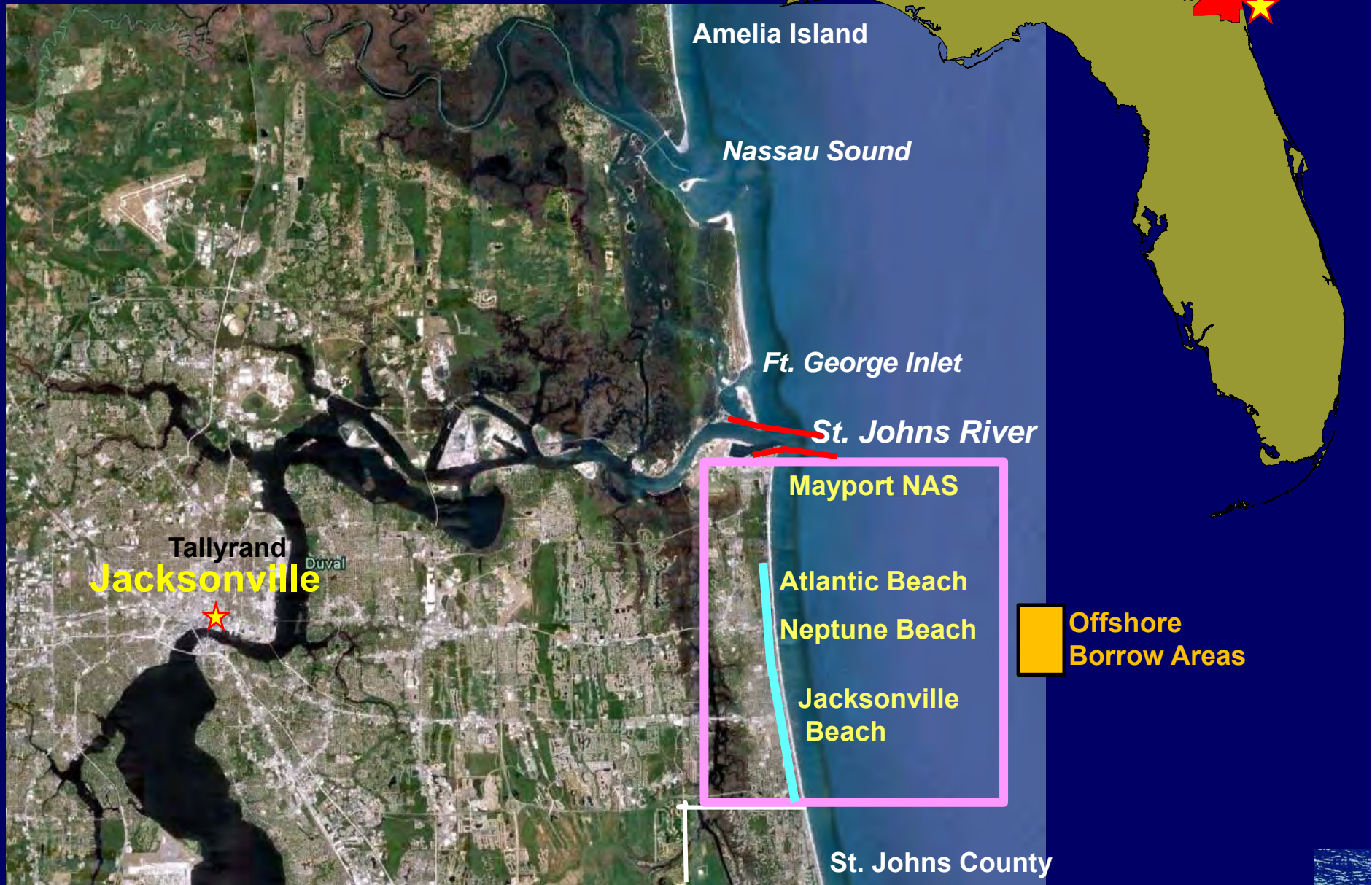




Jacksonville Beach -- During Hurricane Matthew, October 7, 2016



Duval County Shore Protection Project



Late 1950's/1960



Sept 1964

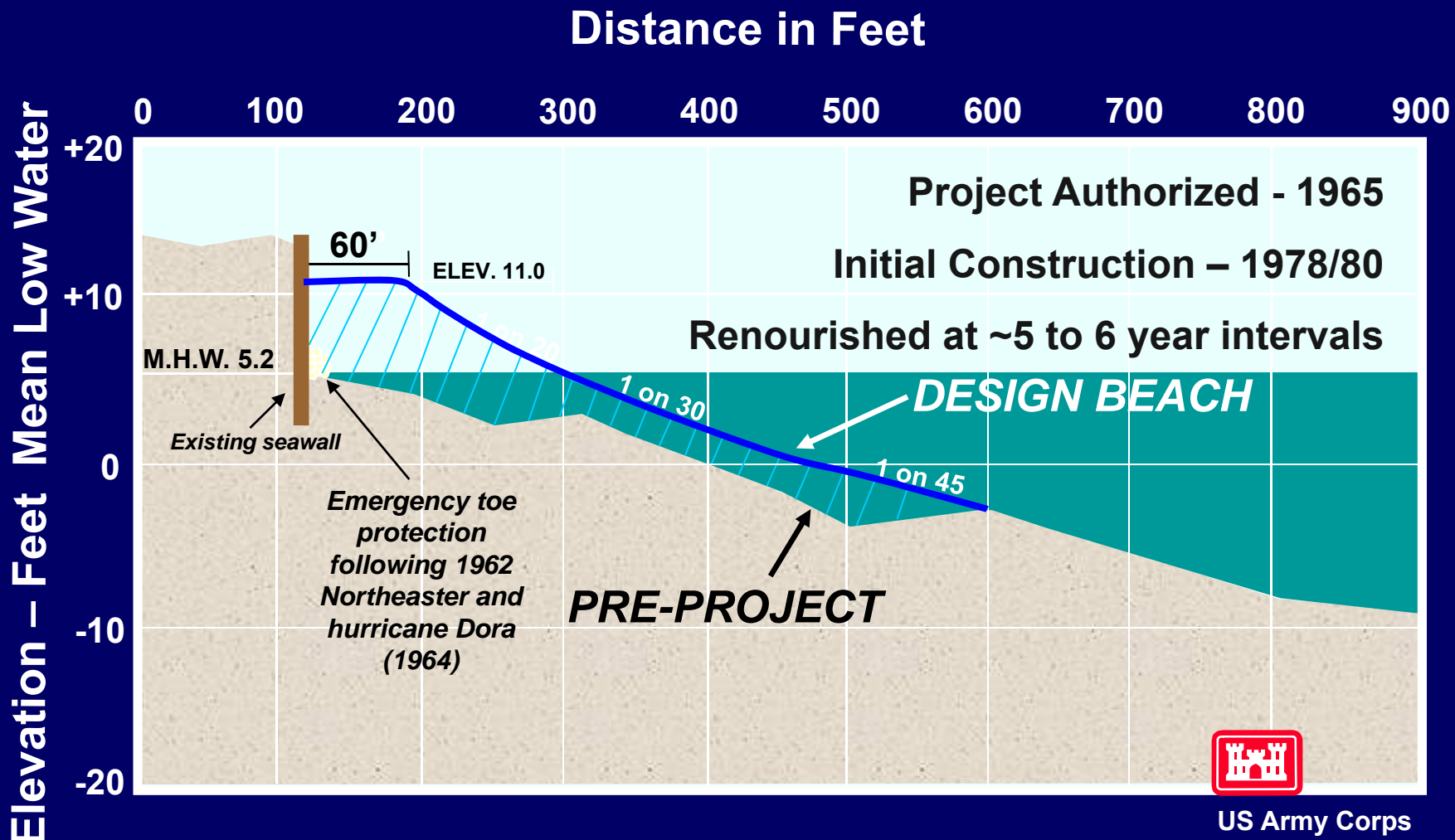


Jan 1965



1978

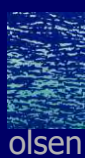




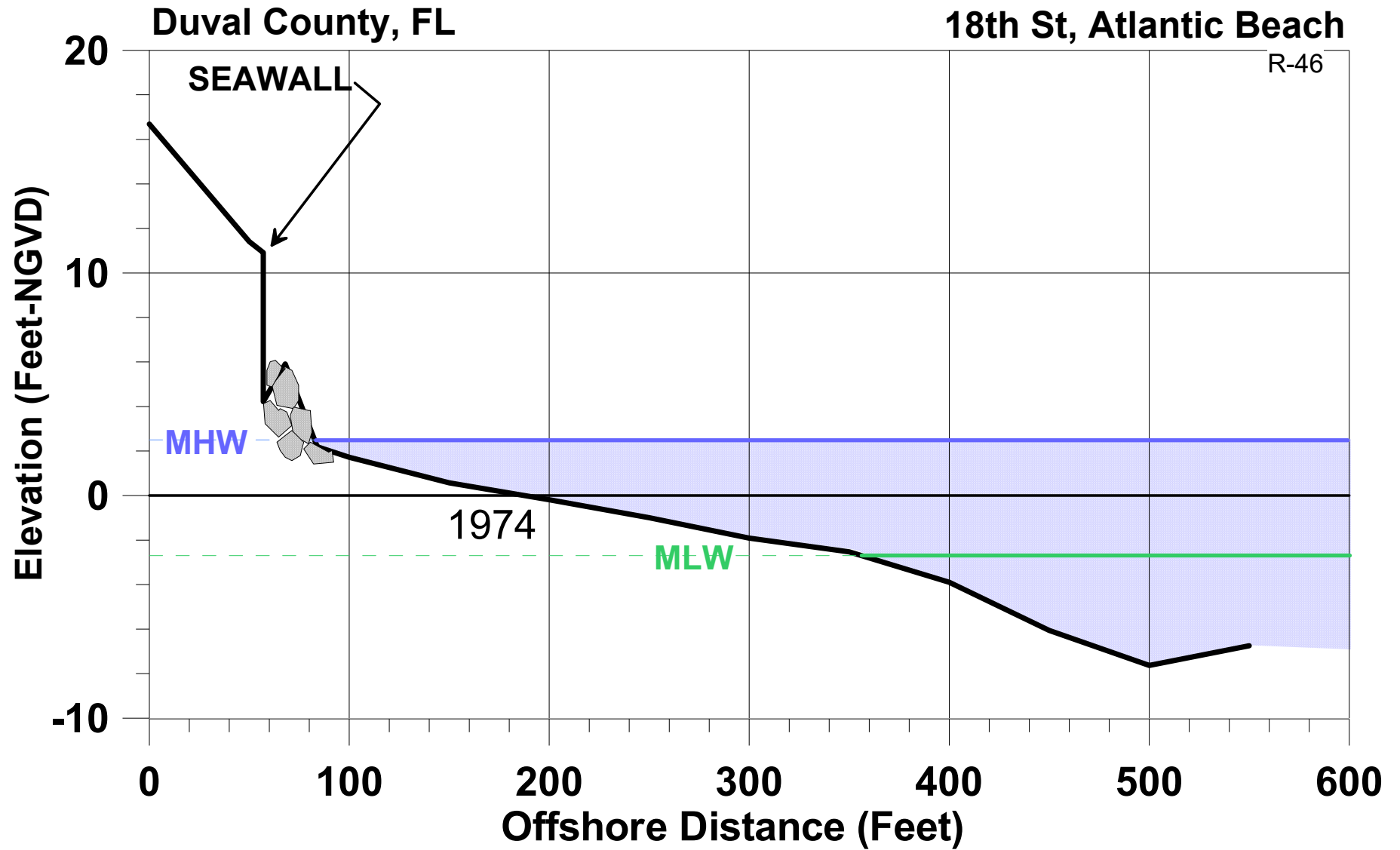
US Army Corps
of Engineers
Jacksonville District

Authorized Beach Project

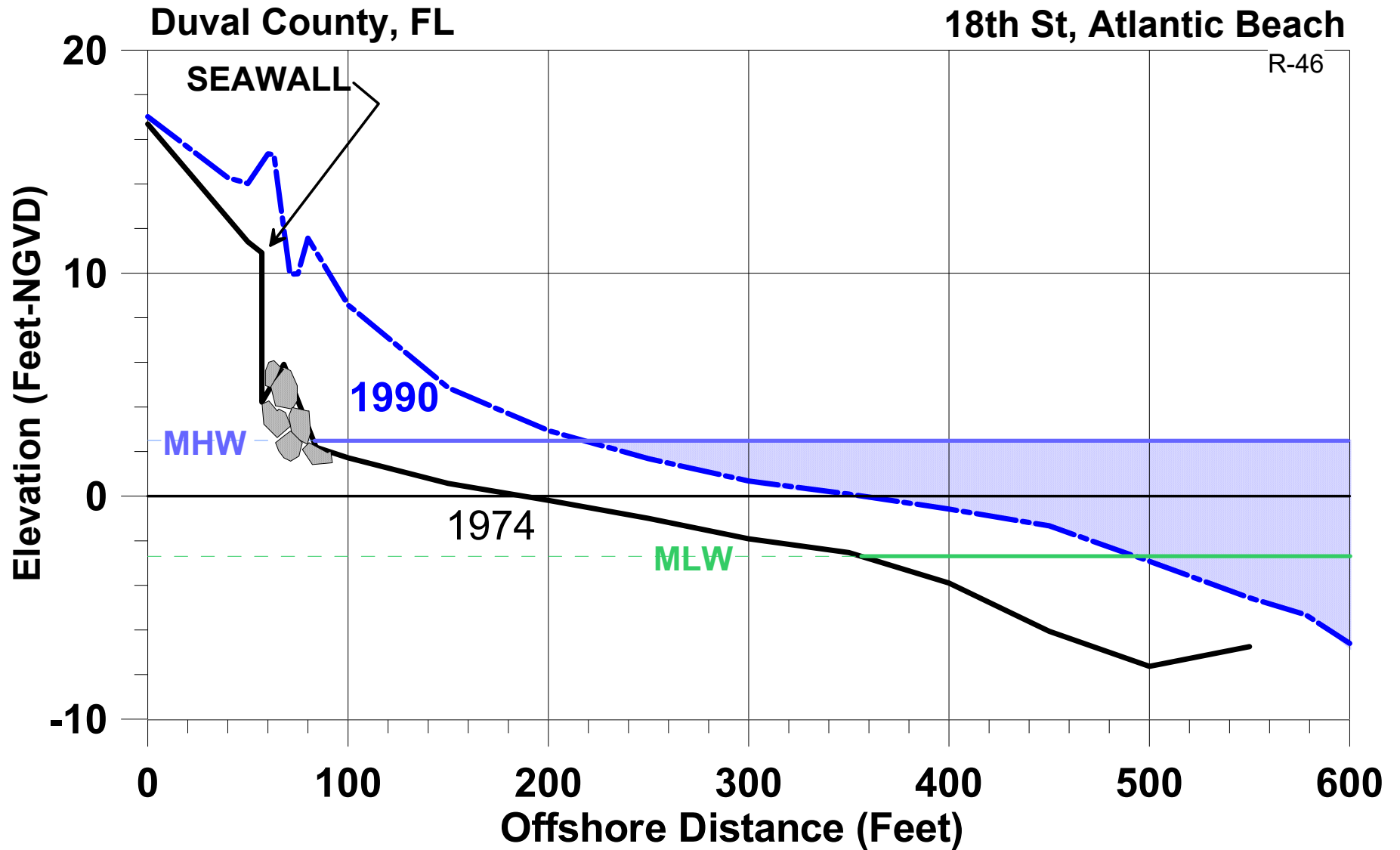
Duval County, Florida Shore Protection Project



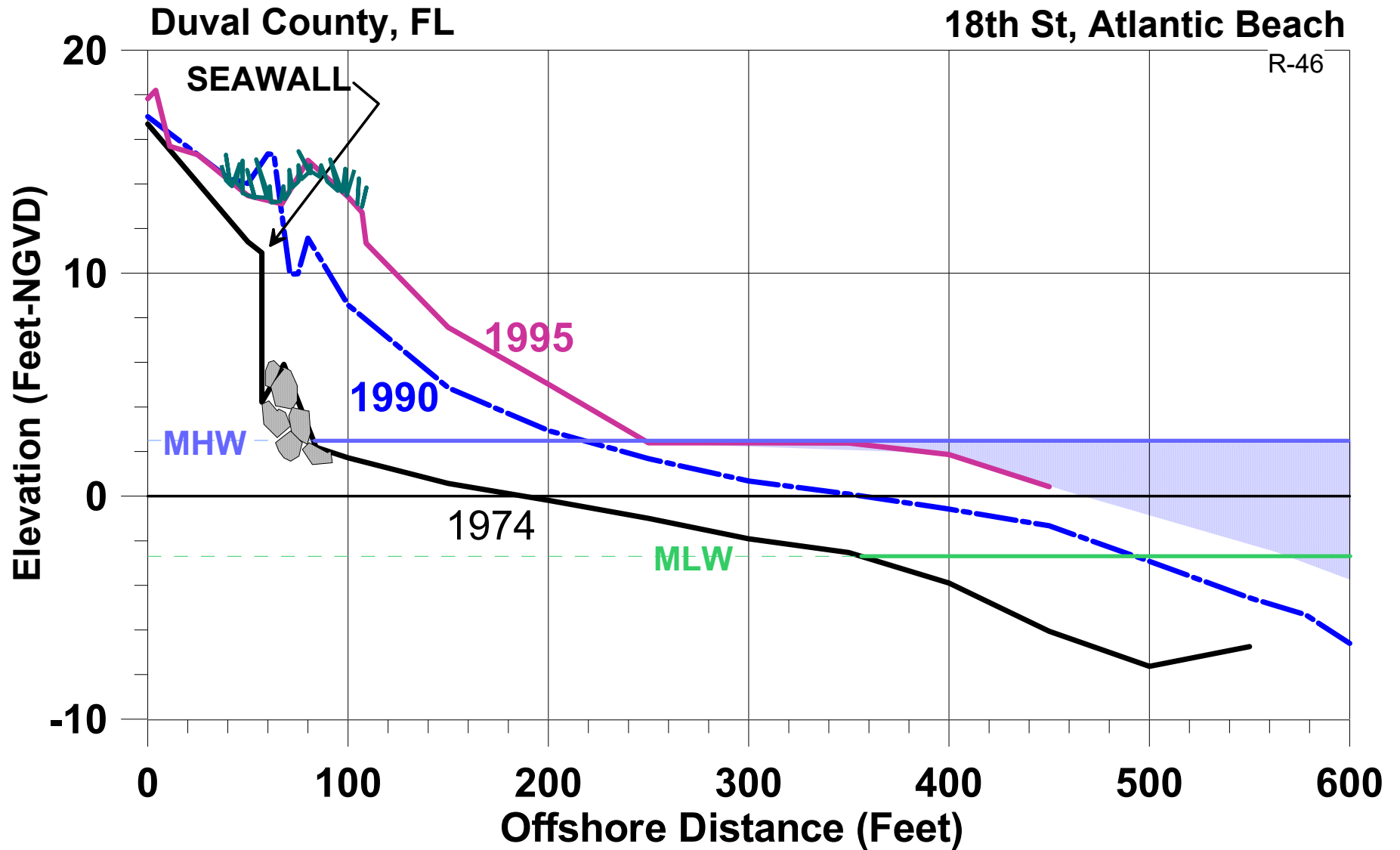
BEACH PROFILE & FILL PERFORMANCE (Duval County)



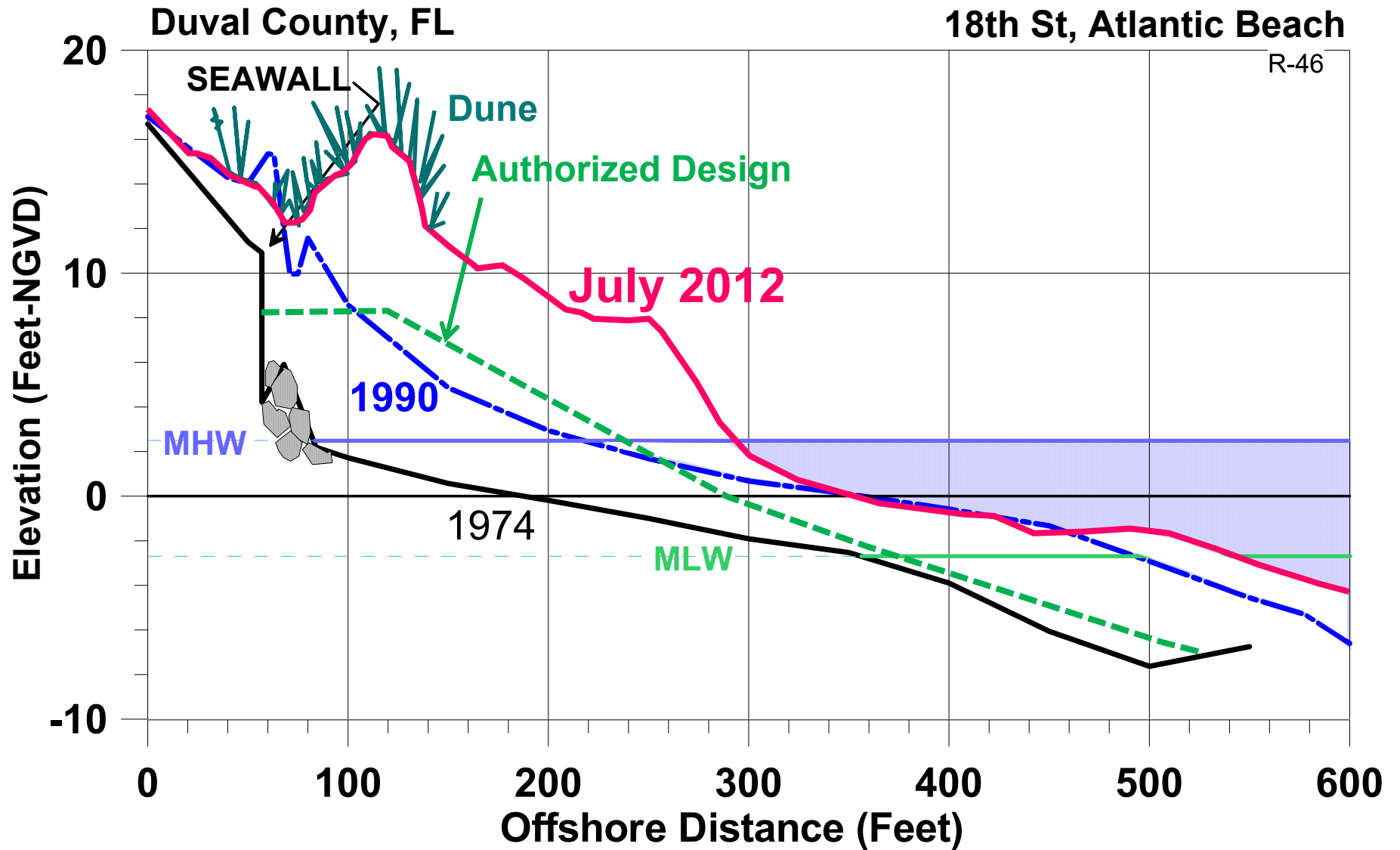
BEACH PROFILE & FILL PERFORMANCE (Duval County)



BEACH PROFILE & FILL PERFORMANCE (Duval County)



BEACH PROFILE & FILL PERFORMANCE (Duval County)



June 1970

Looking north along shore of Atlantic Beach (one block south of pier).
June 9, 1970



Aug. 1978



8th Street
Atlantic Beach



JACKSONVILLE BEACH, 1962



JACKSONVILLE BEACH, 2011



JACKSONVILLE BEACH Summer 1973

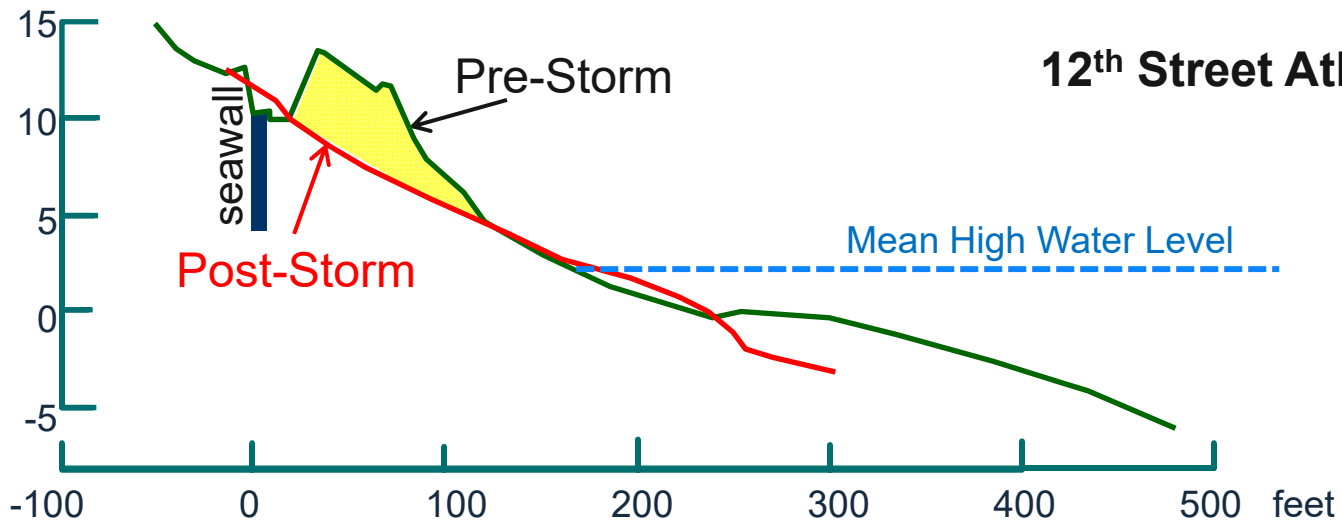


JACKSONVILLE BEACH February 2011



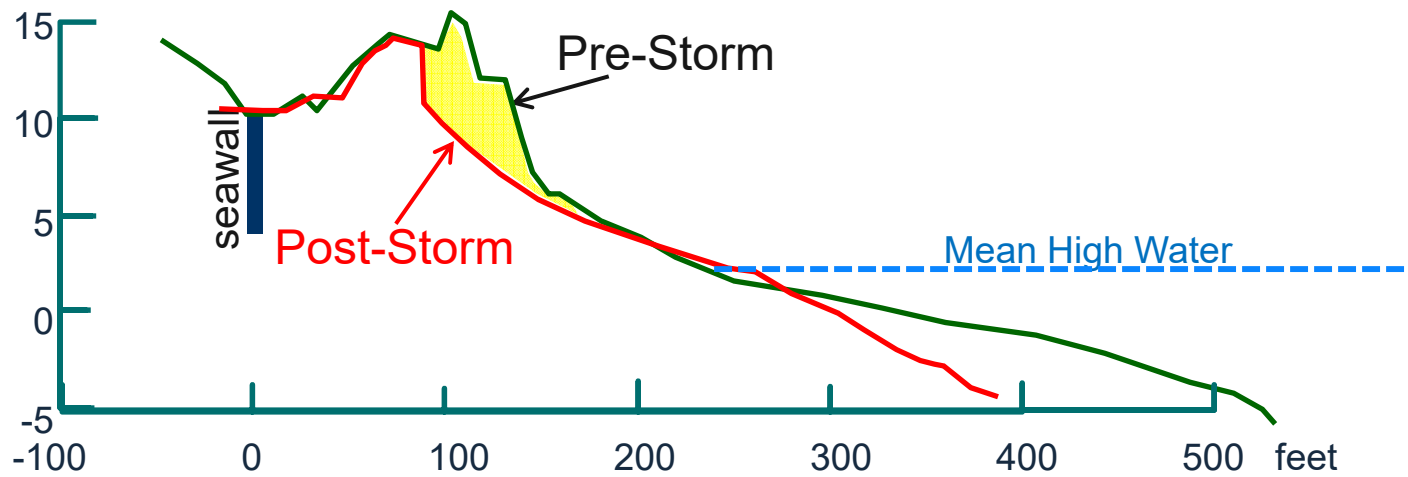
Post-Hurricane Matthew – October 2016



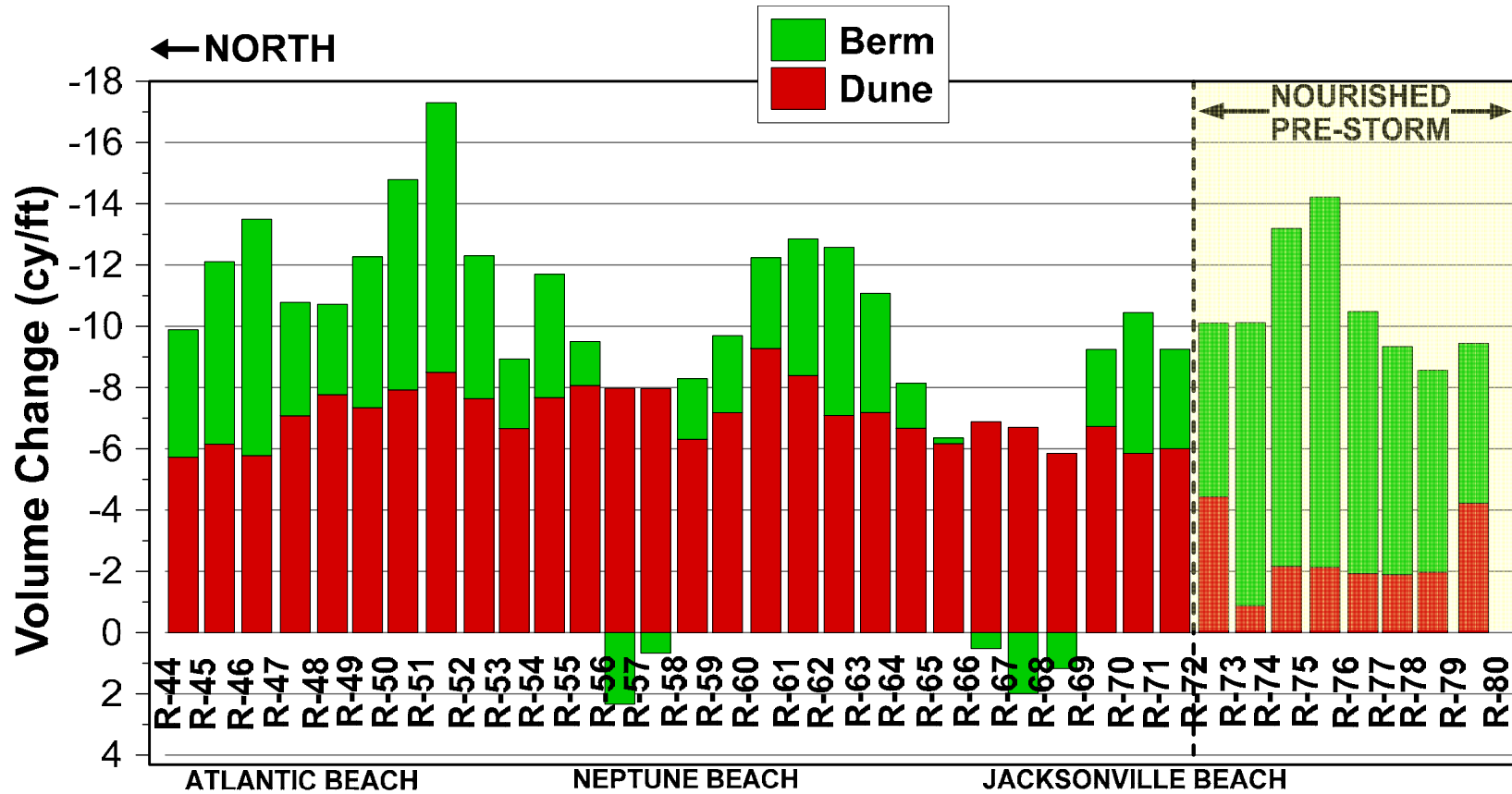




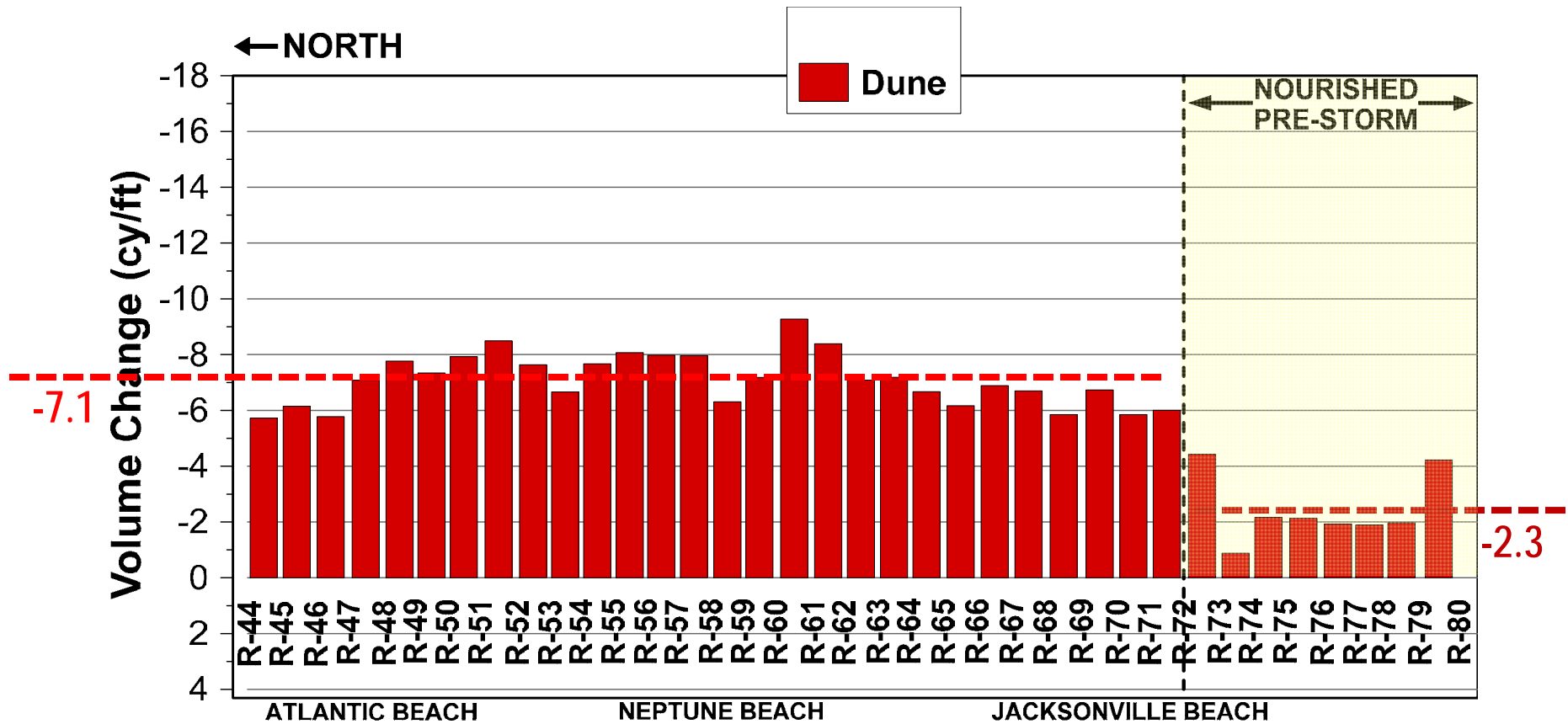
Cedar Street Neptune Beach



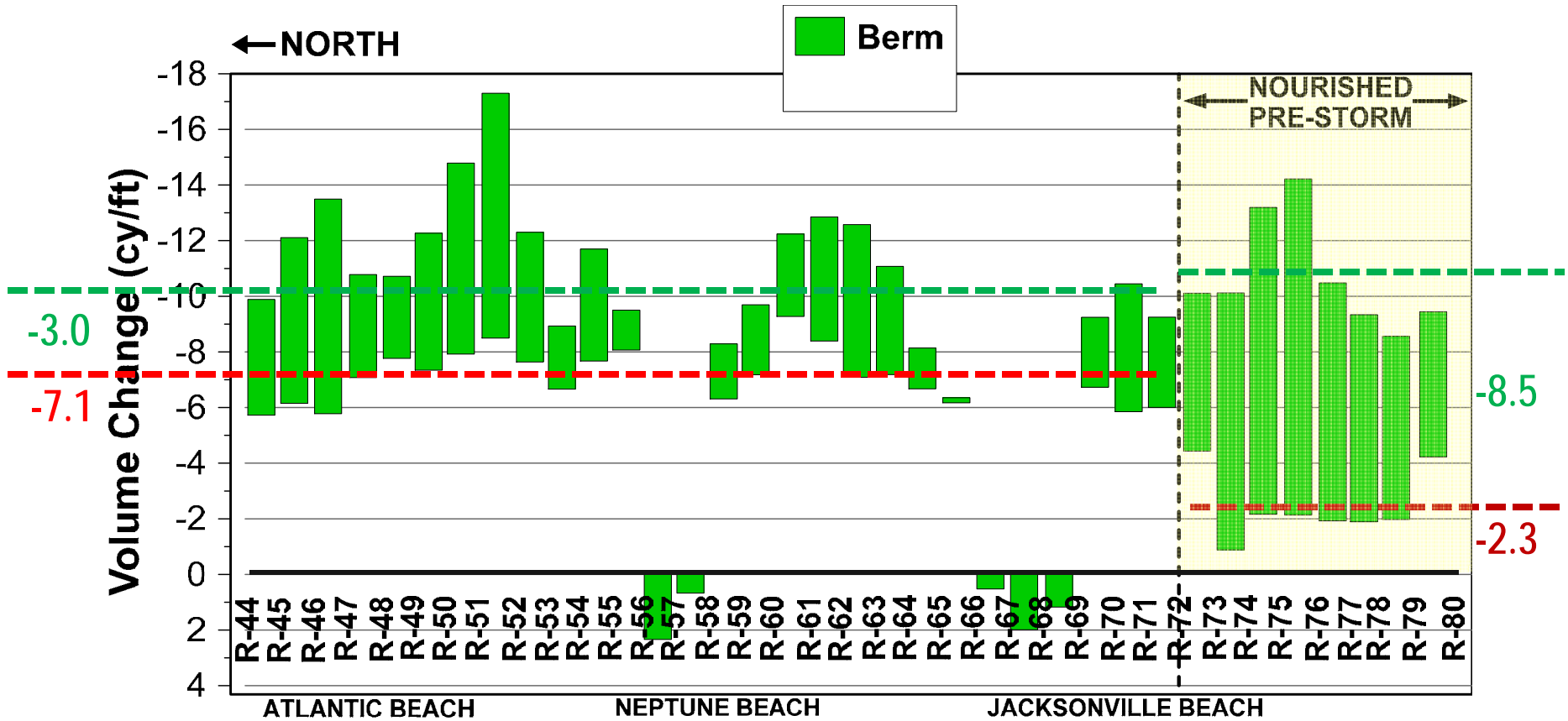
Alongshore Storm Erosion to Upper Beach



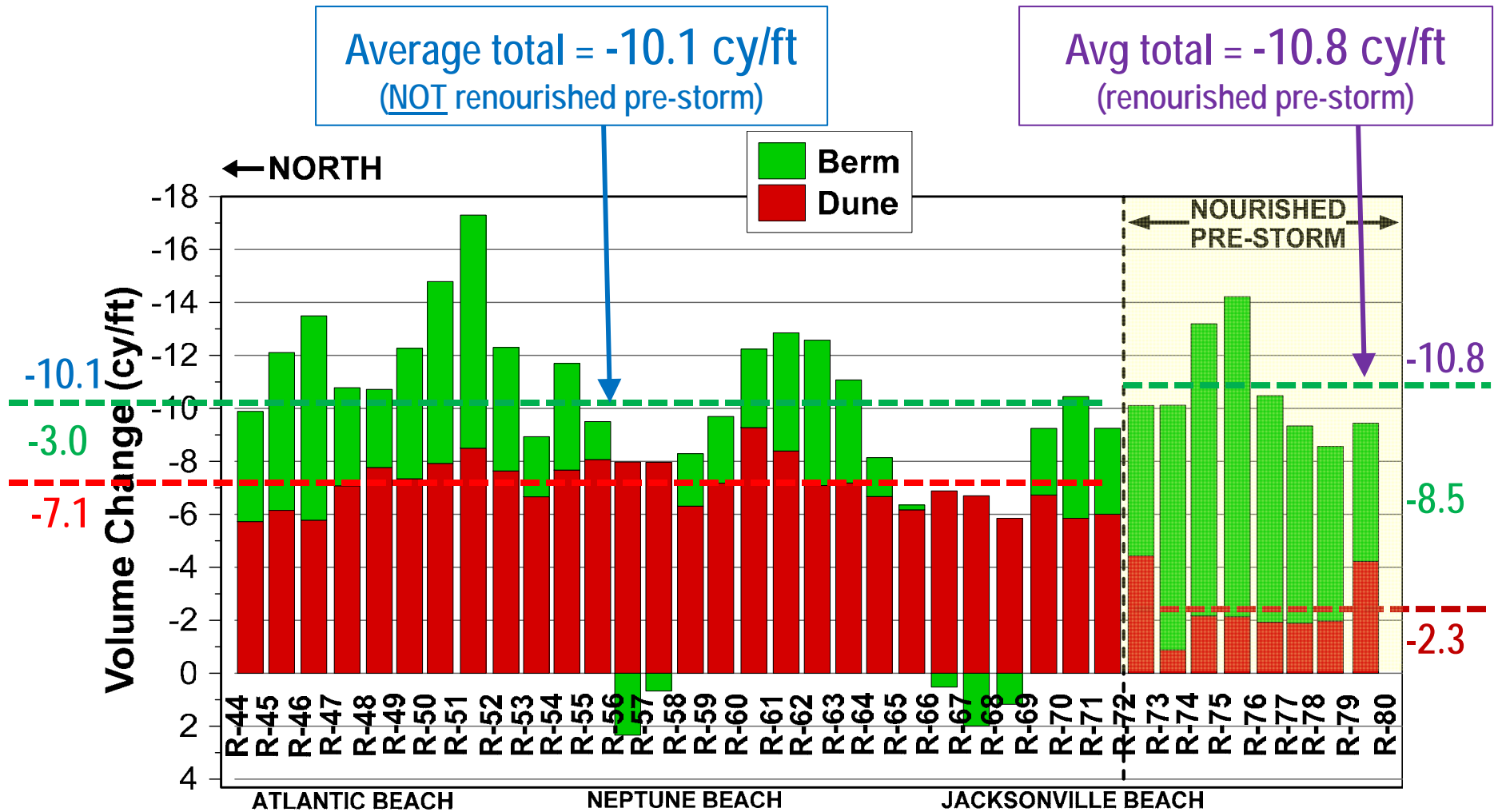
Alongshore Storm Erosion to Upper Beach

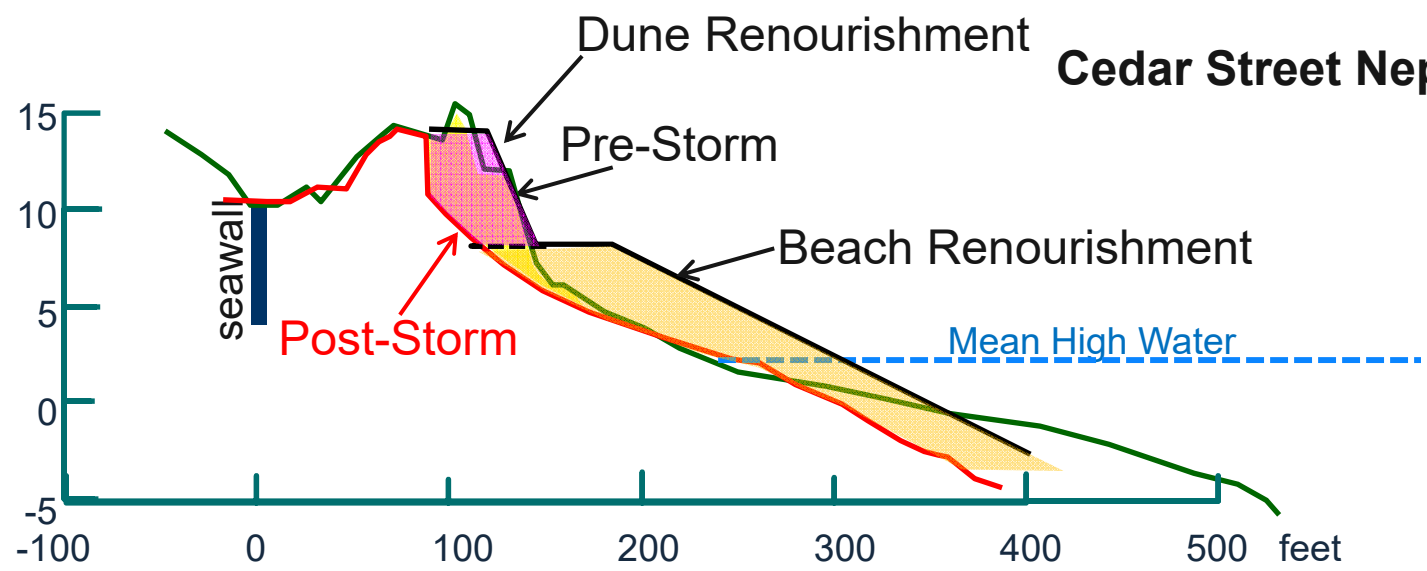
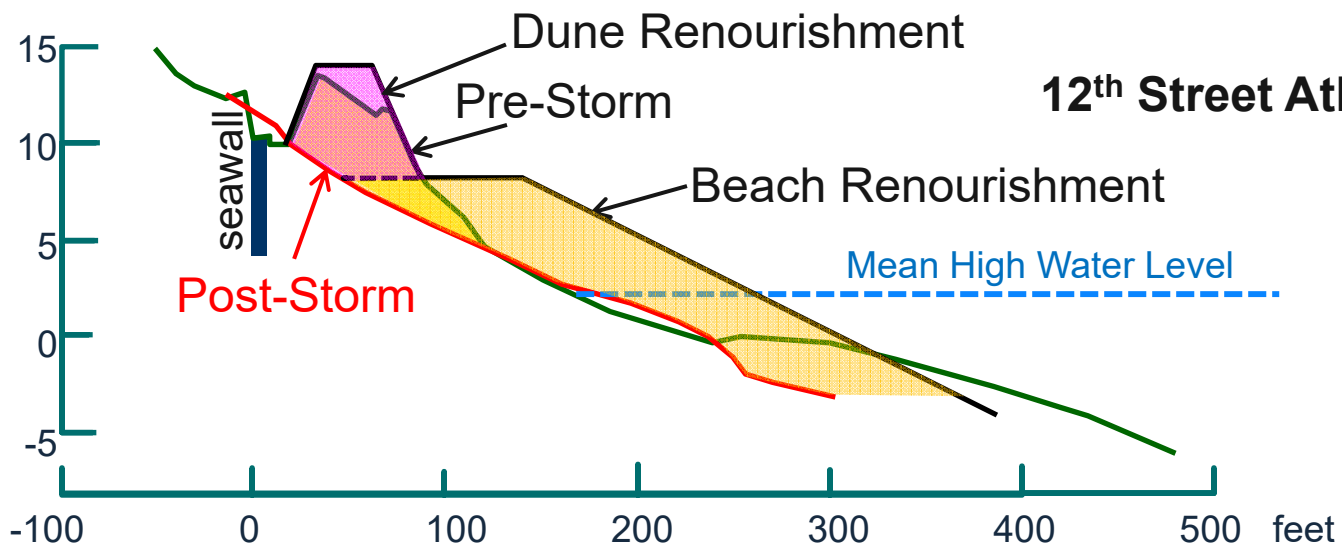


Alongshore Storm Erosion to Upper Beach



Alongshore Storm Erosion to Upper Beach

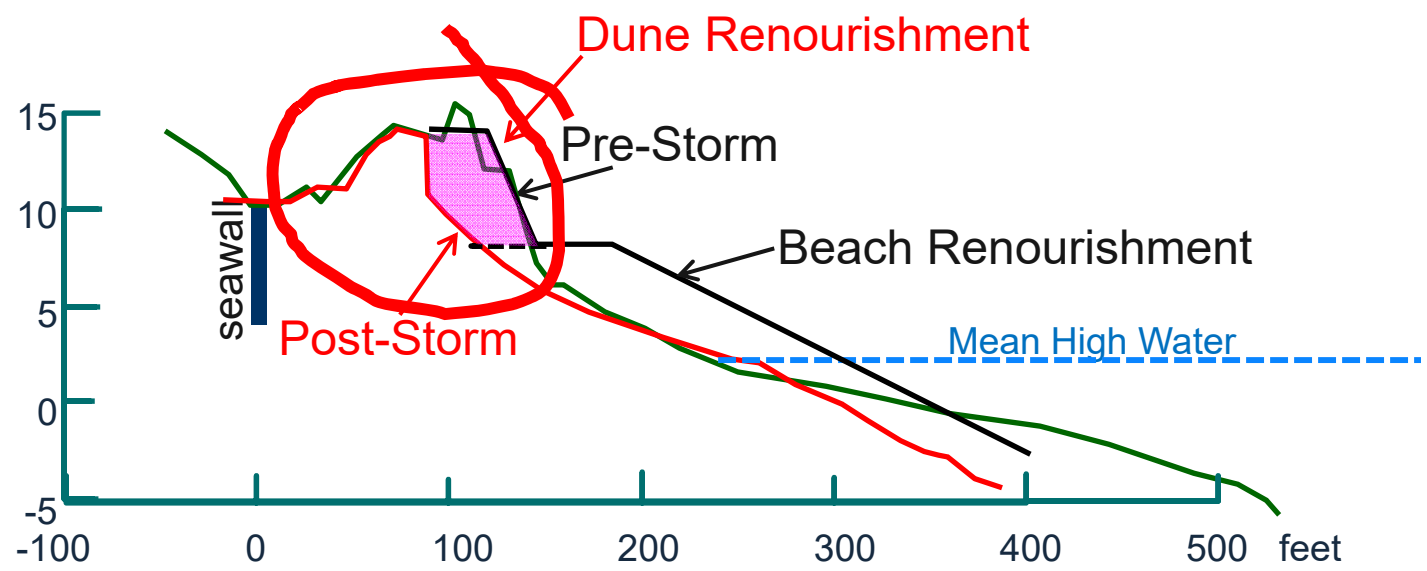
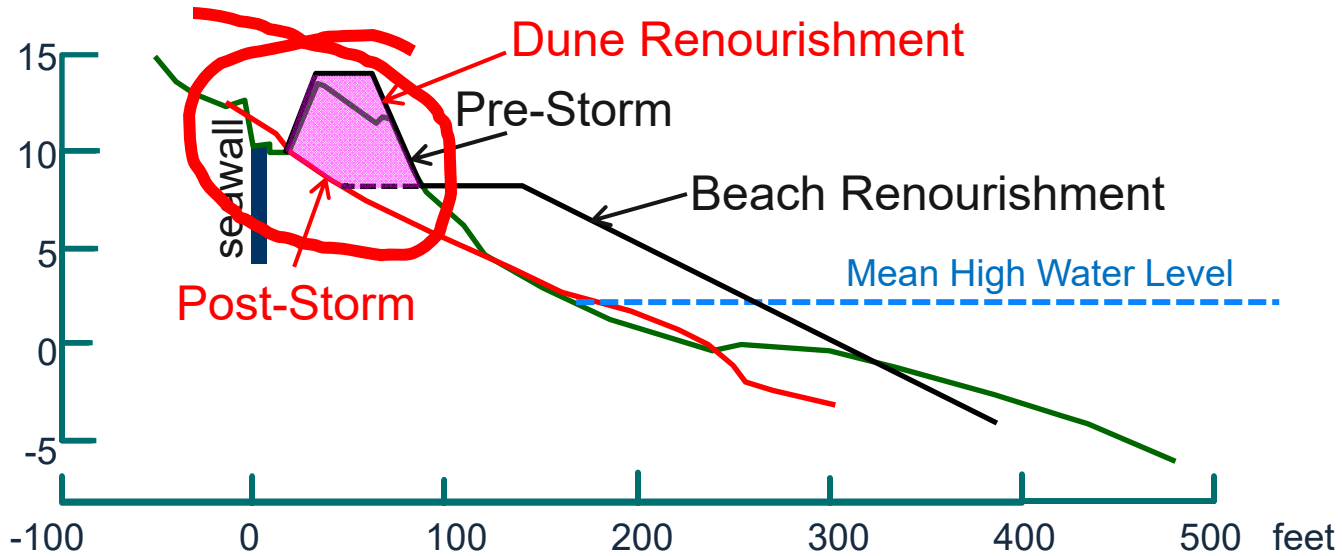




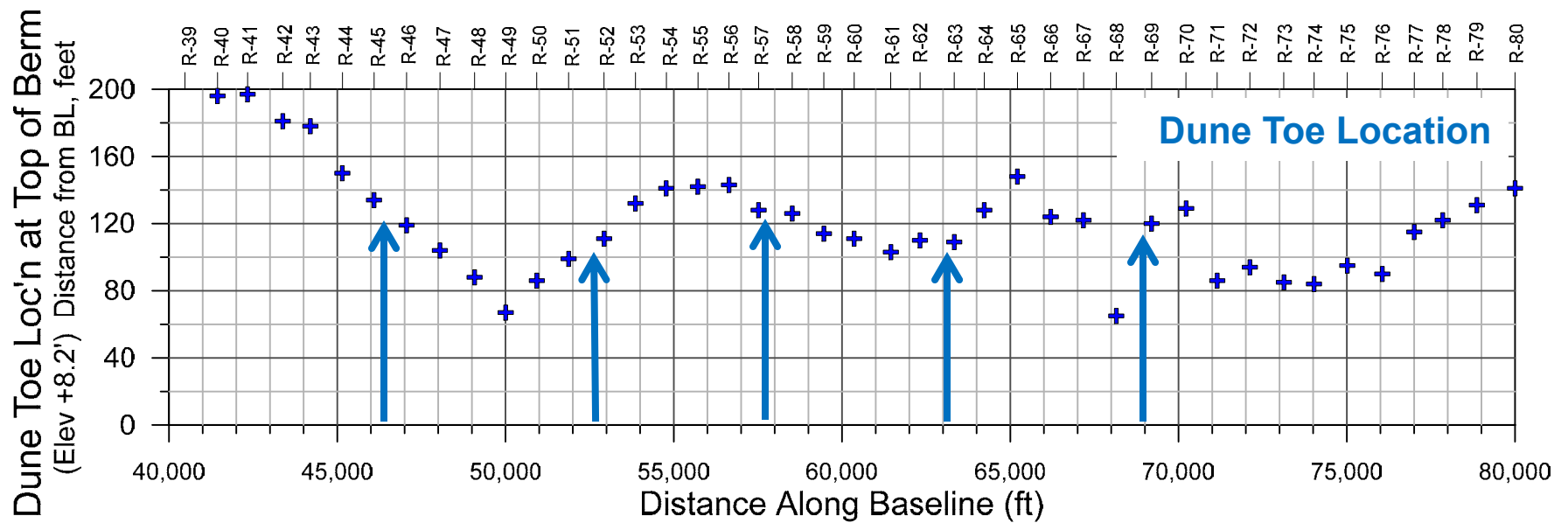
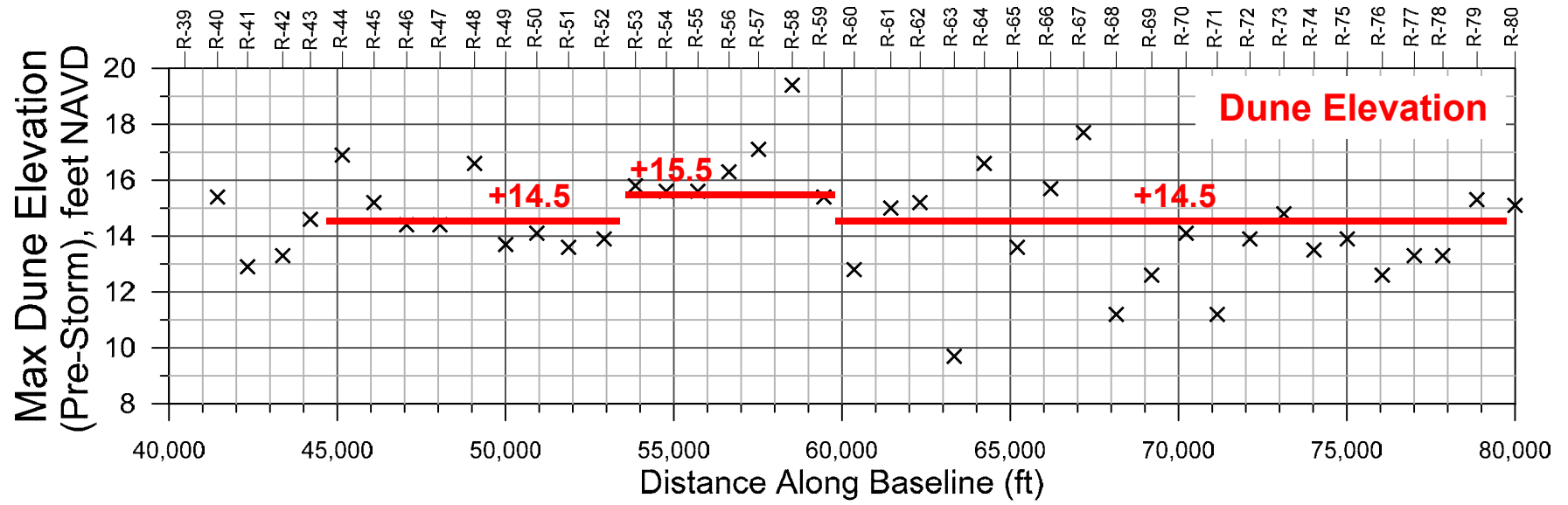
POST-HURRICANE MATTHEW SITUATION

- **700,000 cubic yards of ongoing 2016 beach renourishment, of which the southern 7000-ft was completed pre-storm**
- **+80,000 cy storm erosion to renourishment template**
- **+208,000 cubic yards of dune erosion**
- **Corps of Engineers authorized only for beach renourishment**
- **City must contribute funds for dune renourishment**
- **Beach renourishment advances ~500 feet per day**

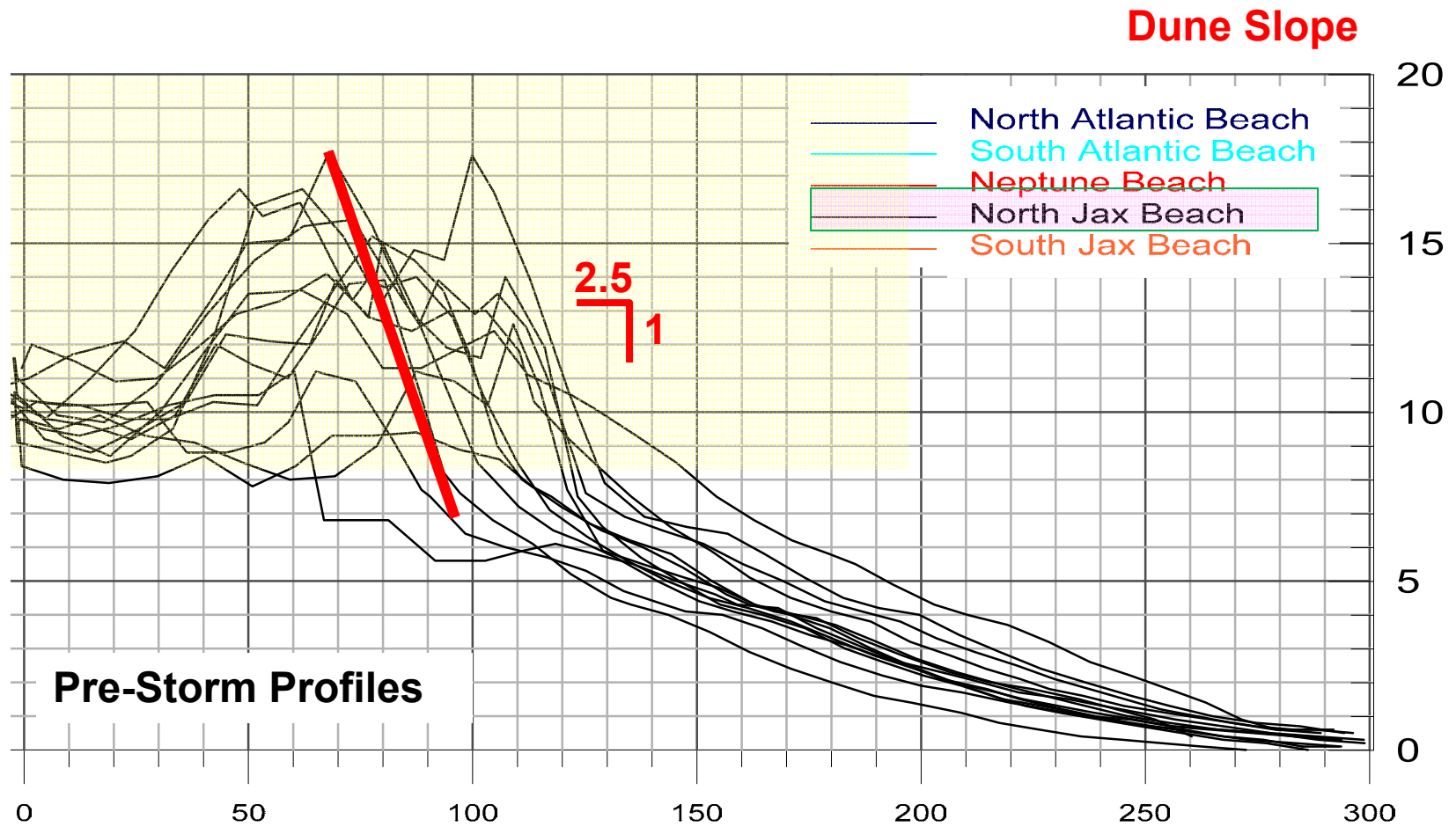




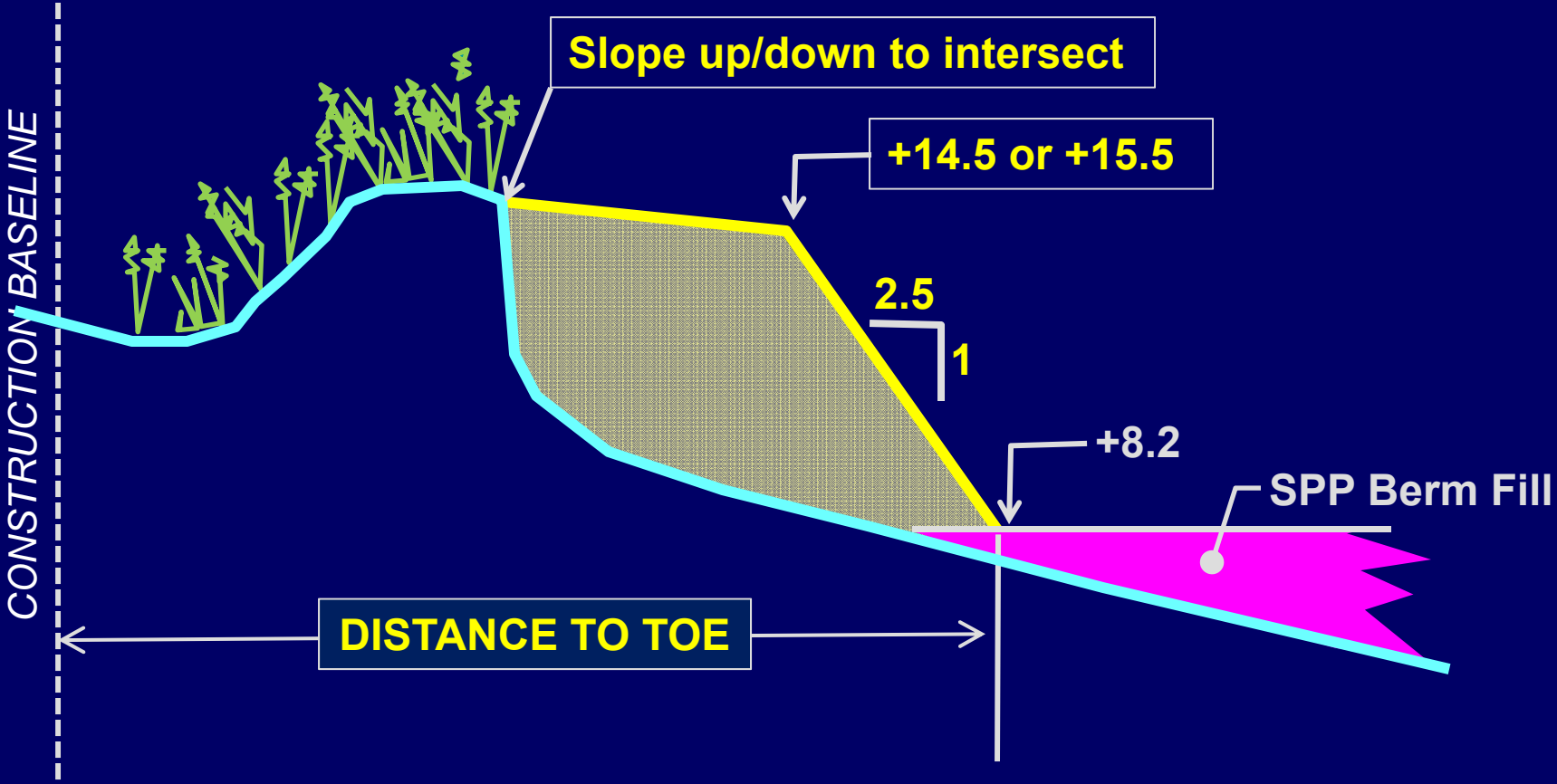
Dune Repair Design



Dune Repair Design

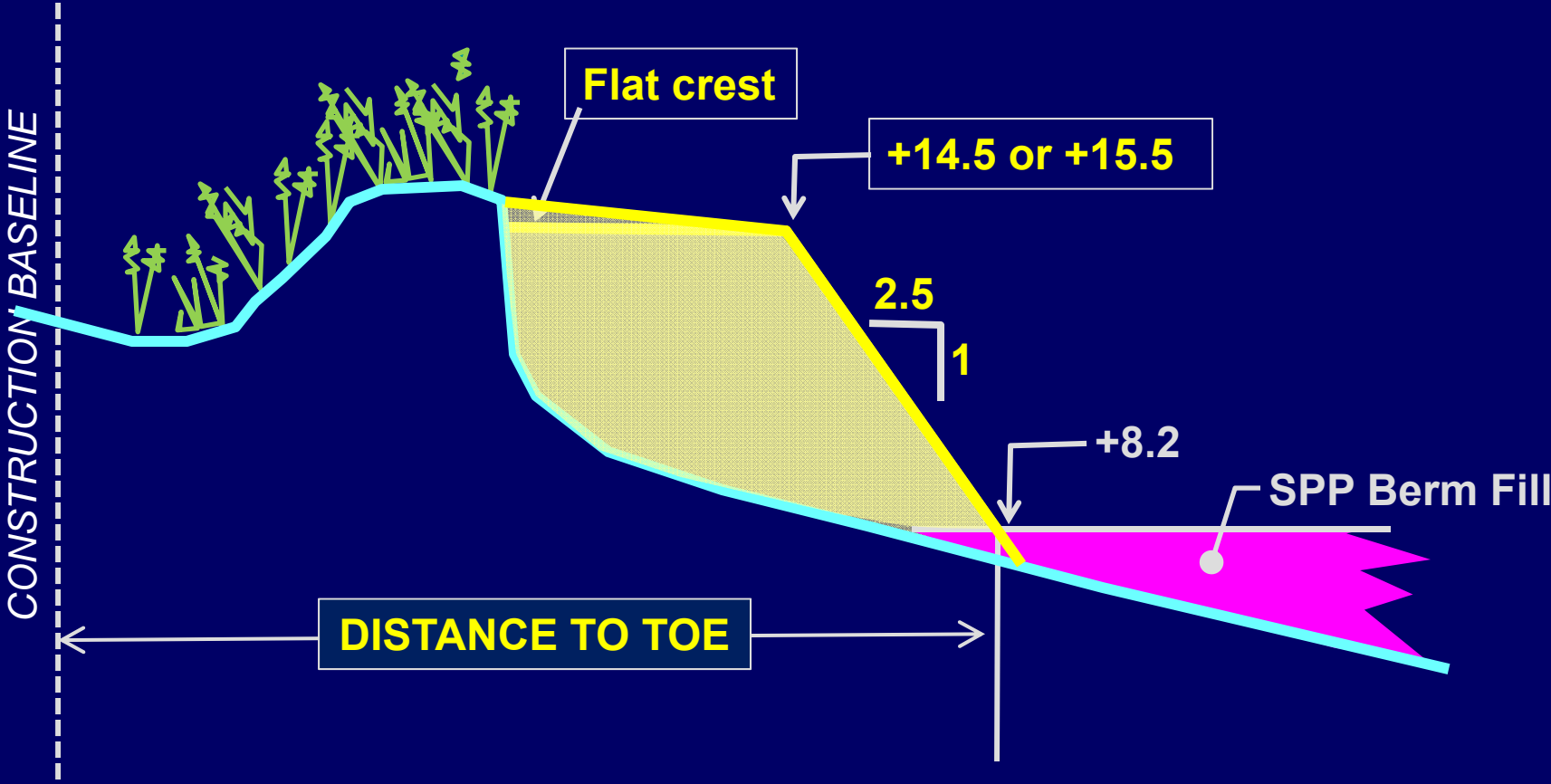


Dune Repair Design



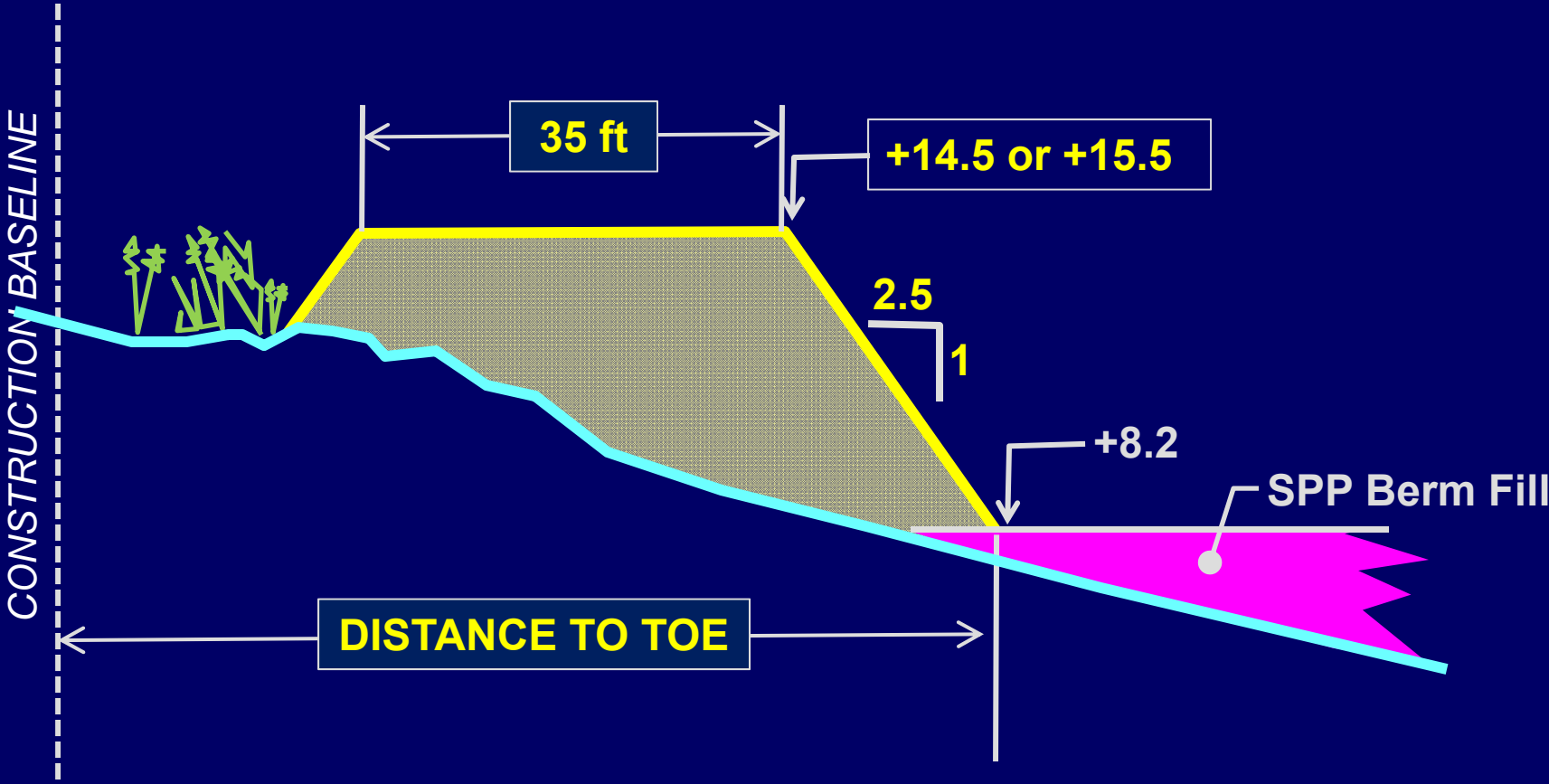
DUNE PAYMENT = ALL VOLUME PLACED ABOVE +8.2'

Dune Repair Design



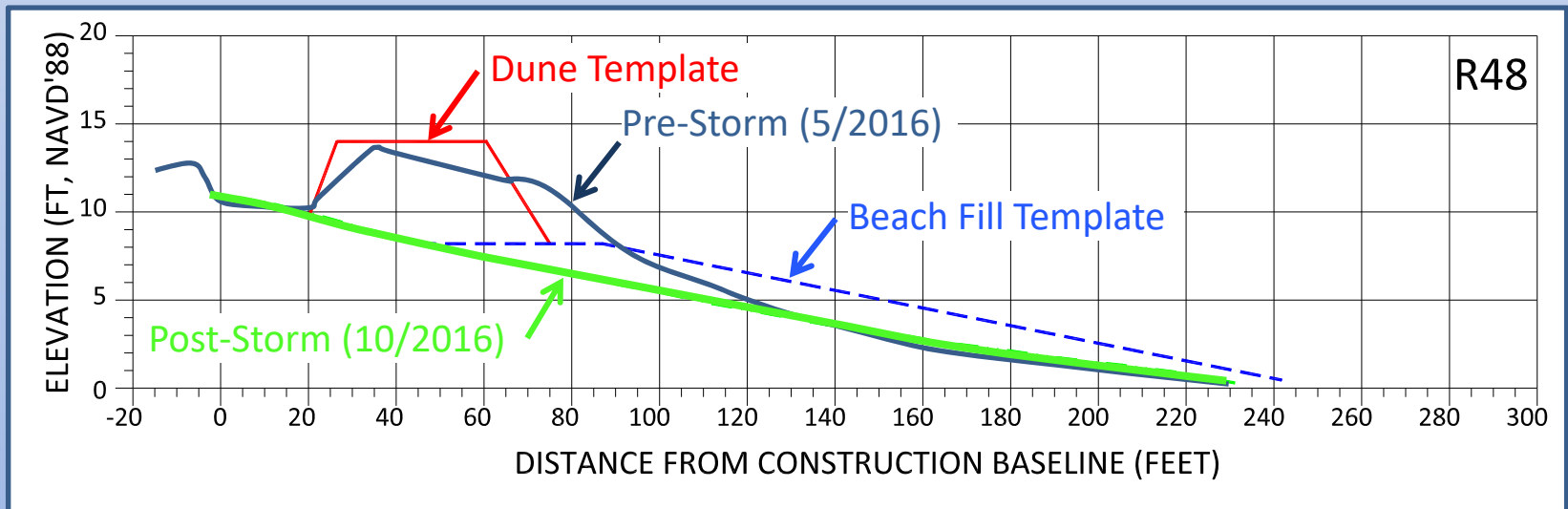
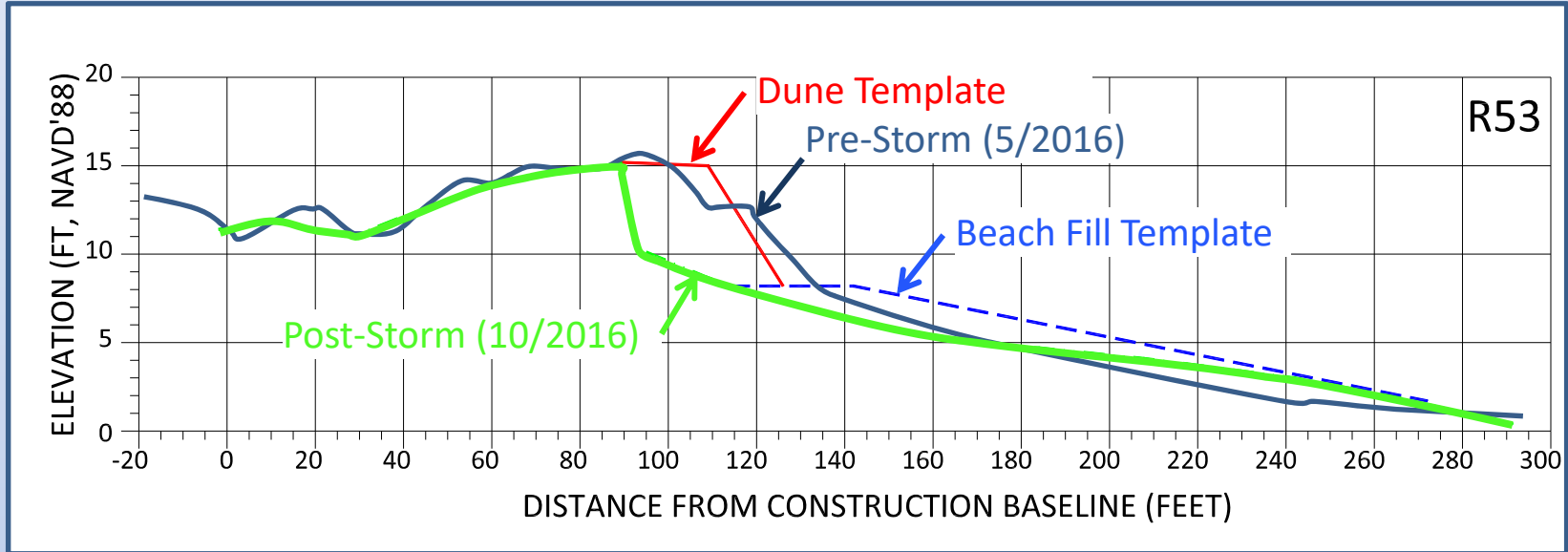
DUNE PAYMENT = ALL VOLUME PLACED ABOVE +8.2'

Dune Repair Design



DUNE PAYMENT = ALL VOLUME PLACED ABOVE +8.2'

EXAMPLE OF DUNE REPAIR TEMPLATE FROM PLANS



2016 Project Renourishment

- **Federal = 61.6%** **\$9.2M**
 - **State of Florida = 18.0%** **\$2.7M**
 - **City of Jacksonville = 20.4%** **\$3.0M**
- } \$14.9 M
-
- **City of Jacksonville Dune = 100%** **+\$7.5M**

Hurricane Matthew Response (Oct-Nov 2016)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Oct 2	3	4	5	6	7	8
Construction since 20 Sept, 2016 Southern 7500-ft completed			Storm Demobilize		Hurricane Matthew	
Inspect Beach; Meeting	← Beach Survey →		Survey data completed	Beach Renourish resumes	Dune Repair Plan Drafted	Initiate Consult with GLDD
16	17	18	19	20	21	22
Brief Mayor, Governor, USACE HQ re: need for prompt action				City legislation entered	→	
23	24	25	26	27	28	29
→		Meetings and City approves \$7.5M	→		Corps modifies construction contract	→
30	31	Nov 1	2	3	4	5
→			City funds provided to Corps	Dune repairs begin		

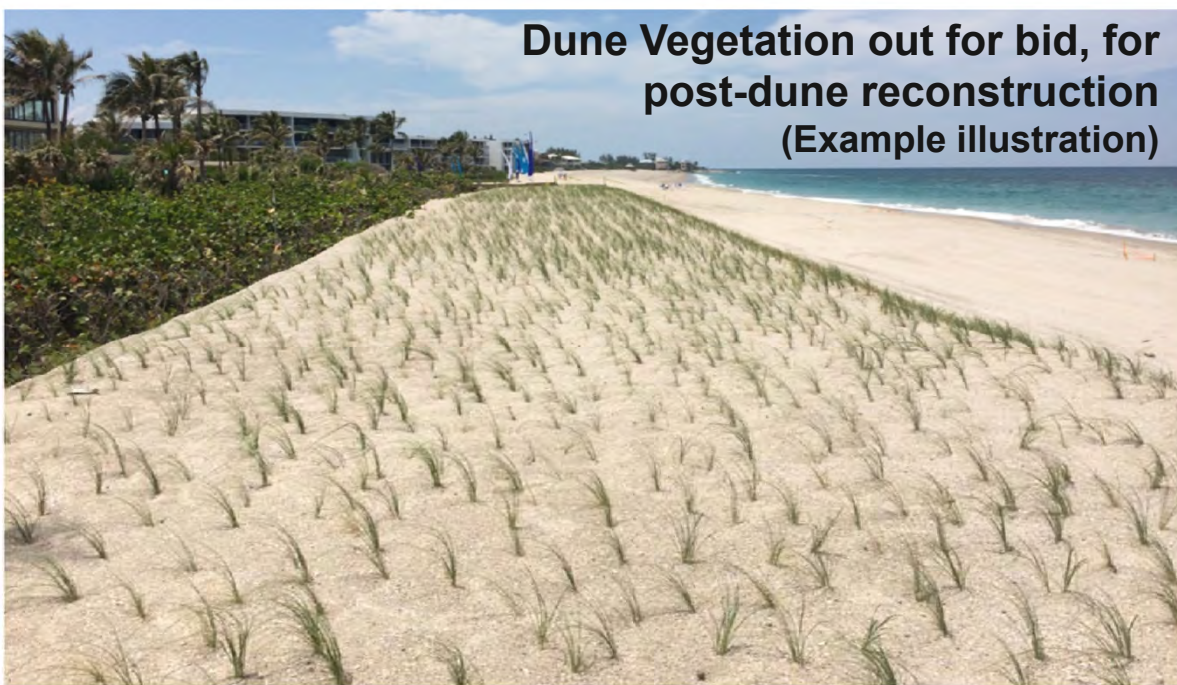
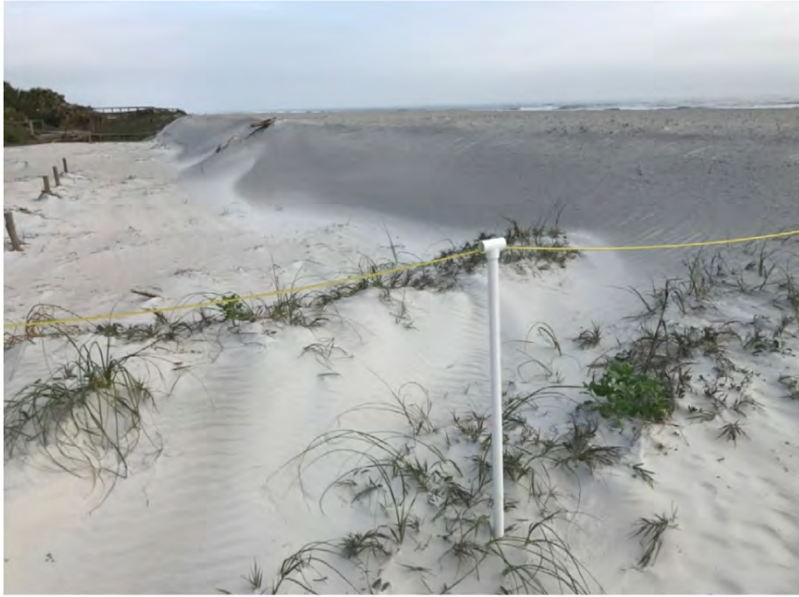


Dune Reconstruction (Neptune Beach)





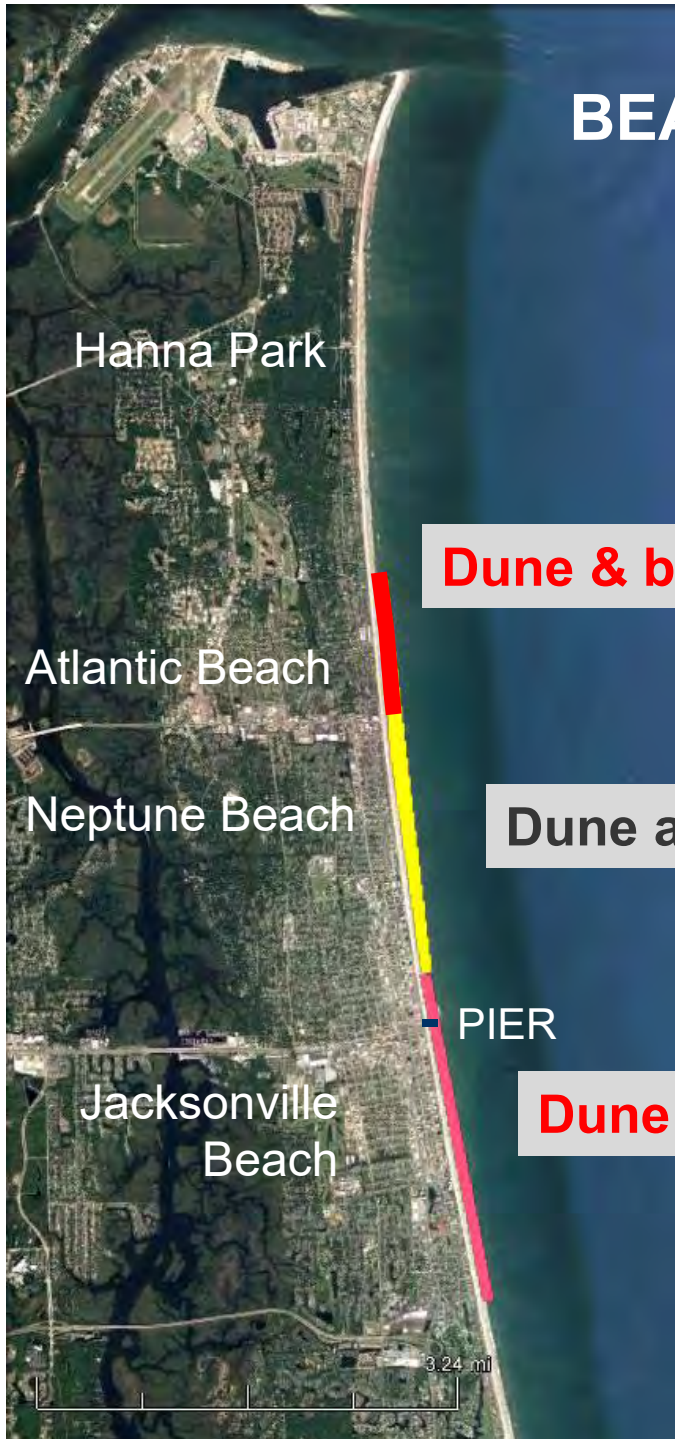




Dune Vegetation out for bid, for post-dune reconstruction (Example illustration)

200,000 cubic yards of sand and ~600,000 sea oat plants to restore the dune erosion along the 7-mile project area from north Atlantic Beach to south Jacksonville Beach.

BEACH & DUNE REPAIR PLAN



Dune & beach fill – May 2017: 1.5 miles

Dune and beach fill – completed: 2 miles

Dune fill & add'l beach fill – July 2017: 3 miles

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Olsen Associates, Inc., Jacksonville, FL

with

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olsen
associates, inc.
Coastal Engineering

